Research Management - Problem Submission

Problem Title:

Integration of user controlled webcams to existing MDT webcam facilities for aviation purposes.

Problem Statement:

This research would be to determine the practical feasibility and a cost analysis study of the integration of user controlled multi-function, mutiaxis webcams to existing MDT camera sites for real time visual aviation weather information.

Research Proposed:

Aviation is extremely dependant upon up to the minute, accurate and authoritative weather and forecasting information. There are many aviation weather related services that pilots are able to use to determine specific conditions at various locations as reported by human and automated weather observers and forecast by other weather professionals. The large gap that exists today in aviation weather information however is the extreme lack of user accessible real time web cameras in strategic locations. Miscellaneous private, corporate and public webcams that have sprung up here and there are being voraciously used by pilots to help them determine what the current visual weather is wherever the cameras happen to be located. Cameras that allow the user to actually control the direction and zoom are highest in demand by pilots, similar to the web cam located atop the University of Montana complex and currently linked to the MDT Aeronautics Web site. Sadly, these types of cameras are few and far between, however, the MDT does have several strategically placed web cams at locations that are used to determine road conditions by users. These same cameras are also used occasionally by pilots since they are commonly located in sensitive weather locations such as mountain passes, but unfortunately, these cameras are pointed down to the road and show very little of the sky coverage that the pilot needs to see. If it could be determined that user controlled web cams could be co-located or even replace the existing cameras, it would be of tremendous value to the pilot and driver alike. There is no doubt, that if implemented, this type of weather information would be by far one of the most widely used tools used by airmen and other aviation professionals around the country.

IT Component:

The IT component of this study would entail a substantial amount of the research as the technical questions surrounding the web and web cams, user controllability, costs and performance would be core to the research.

Urgency:

Urgency is high for this topic since there is currently no viable substitute for the collection of visual weather information described here. Pilots and other aviation interests have overwhelmingly asked for this type of information in the past, and so far,

no agency or other organization has stepped forward to research this idea and take charge.

Implementation Plan:

Phase I - IT and tech research to determine connectivity issues and options (such as wireless vs. hard wire), camera hardware research, performance and availability, web interconnectivity with existing structure and bandwidth, cost analysis as well as all other IT and tech needs.

Phase II - Research to determine co-locational issues or replacement of existing cameras, other MDT requirements or issues

Phase III - Research of best way to seamlessly implement the results obtained within the study both functionally and cost objectively.